AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method for managing the forwarding of packets to a final destination, comprising:

(a) mapping each received packet to at least one of a plurality of queues, wherein the mapping is based on a kind of data included with each of the received packet;

(b) providing a threshold that is compared to a differential that represents loading differences between a queue associated with the kind of data included in the received packet and another queue that is unassociated with the kind of data included in the received packet, wherein the queue associated with the kind of data included in the received packet is overloaded when the differential exceeds the threshold;

(c) when the differential exceeds the threshold and operational logic is valid, automatically changing the mapping of the received packet from the queue to the other queue, wherein the other queue is less loaded than the queue associated with the kind of data included in the received packet when the differential exceeds the threshold; and

(d) forwarding each of the received packet in each said queue along a path towards the final destination, wherein the ordering of the forwarding of each of the received packet is in accordance with a weight associated with each said queue.

2. (Previously Presented) The method of Claim 1, wherein the received packet is one of an Internet Protocol (IP) packet and an Asynchronous Transfer Mode (ATM) packet.

3. (Previously Presented) The method of Claim 1, further comprising providing the weight for each said queue that is associated with each kind of data, wherein resources for forwarding each of the received packet in each said queue are allocated in accordance with each weight provided to each said queue, wherein the weight associated with each said queue is unchanged during the forwarding.

4. (Previously Presented) The method of Claim 1, further comprising employing a remapping equation to determine when the differential exceeds the threshold and the operational logic is valid.

5. (Previously Presented) The method of Claim 1, wherein the operational logic determines when both a forwarding priority value and a traffic aggregation value are greater for the received packet initially mapped to the queue associated with the kind of data included with the received packet than another forwarding priority value and another traffic aggregation value associated with each of the received packet in the other queue that is unassociated with the kind of data included in the received packet.

6. (Previously Presented) The method of Claim 1, further comprising enabling automated provisioning of at least one of a forwarding priority value, traffic aggregation value and weight for each said queue based on the kind of data included in each of the received packet.

7. (Original) The method of Claim 1, further comprising enabling the threshold to be set to a sufficiently large value to prevent overloading of the other queue caused by relatively frequent changing of the mapping of received packets to the other queue.

8. (Original) The method of Claim 1, further comprising employ a connection associated with the received packet to determine the kind of data included in the received packet.

9. (Original) The method of Claim 1, further comprising examining the content of the received packet to identify the kind of data included in the received packet.

10. (Original) The method of Claim 1, subparagraph (a), wherein the mapping is based on Diffserv code points.

11. (Previously Presented) A router for forwarding packets to a final destination over a network, comprising:

(a) a transceiver for receiving and transmitting each packet over each network coupled to the router;

(b) a mapper that maps each received packet to at least one of a plurality of queues, wherein the mapping is based on a kind of data included with each of the received packet;

(c) a remapper that compares a provided threshold to a differential that represents loading differences between a queue associated with the kind of data included in the received packet and another queue that is unassociated with the kind of data included in the received packet, wherein the queue associated with the kind of data included in the received packet is overloaded when the differential exceeds the threshold wherein the remapper automatically changes the mapping of the received packet from the queue to the other queue when the differential exceeds the threshold and operational logic is valid, wherein the other queue is less loaded than the queue associated with the kind of data included in the packet when the differential exceeds the threshold; and

(d) a scheduler that forwards each of the received packet in each said queue along a path towards the final destination, wherein the scheduler orders the forwarding of each received packet in accordance with a weight associated with each said queue.

12. (Original) The router of Claim 11, further comprising a base station that includes a wireless transceiver for wirelessly communicating with mobile devices and other base stations, wherein the router is internal to the base station.

13. (Previously presented) The router of Claim 11, further comprising a classifier for determining the kind of data included in each of the received packet.

14. (Original) The router of Claim 13, wherein the classifier employs a connection associated with the received packet to determine the kind of data included in the received packet.

15. (Original) The router of Claim 13, wherein the classifier examines the content of the received packet to identify the kind of data included in the received packet.

16. (Previously presented) The router of Claim 11, further comprising a weighter that enables a weight to be provided for each said queue that is associated with each kind of data, wherein resources for forwarding each of the received packet in each said queue are allocated in accordance with each of the weight provided to each said queue.

17. (Original) The router of Claim 11, wherein the threshold is set to a value sufficiently large to prevent overloading of the other queue caused by relatively frequent changing of the mapping of received packets to the other queue.

18. (Previously presented) The router of Claim 11, wherein the operational logic determines when both a forwarding priority value and a traffic aggregation value are greater for the received packet initially mapped to the queue associated with the kind of data included with the received packet than another forwarding priority value and another traffic aggregation value associated with each of the received packet in the other queue that is unassociated with the kind of data included in the received packet.

19. (Previously presented) The router of Claim 11, further comprising a provisioner for automatically providing at least one of a forwarding priority value, traffic aggregation value and weight for each said queue based on the kind of data included in each of the received packet.

20. (Original) The router of Claim 11, subparagraph (a), wherein the mapping is based on Diffserv code points.

21. (Original) The router of Claim 11, wherein the packet is one of an Internet Protocol (IP) packet and an Asynchronous Transfer Mode (ATM) packet.

22. (Previously presented) An apparatus for managing the forwarding of packets to a final destination, comprising:

(a) means for mapping each received packet to at least one of a plurality of queues, wherein the mapping is based on a kind of data included with each of the received packet;

(b) means for providing a threshold that is compared to a differential that represents loading differences between a queue associated with the kind of data included in the received packet and another queue that is unassociated with the kind of data included in the received packet, wherein the queue associated with the kind of data included in the received packet is overloaded when the differential exceeds the threshold;

(c) means for automatically changing the mapping of the received packet from the queue to the other queue when the differential exceeds the threshold and operational logic is valid, wherein the other queue is less loaded than the queue associated with the kind of data included in the packet when the differential exceeds the threshold; and

(d) means for forwarding each of the received packet in each said queue along a path towards the final destination, wherein the ordering of the forwarding of each of the received packet is in accordance with a weight associated with each said queue.

23. (Currently Amended) A method for forwarding a received packet to a final destination over a network, comprising:

establishing a mapping of the received packet to an associated queue based on the kind of data included with the received packet;

determining whether the associated queue is overloaded based at least in part on a comparison of a threshold and a loading difference between the associated queue and an unassociated queue that is not associated with the kind of data included in the received packet;

changing the mapping of the received packet to the unassociated queue if the associated queue is overloaded and an operational logic is valid; and

forwarding the received packet to the final destination based at least in part on at least one of the following: an associated queue weight that is associated with the associated queue and an unassociated queue weight that is associated with the unassociated queue.

24. (Previously presented) The method of Claim 23, further comprising allocating resources for forwarding the received packet based at least in part on the associated queue weight and the unassociated queue weight, wherein each weight is unchanged during the forwarding.

25. (Previously presented) The method of Claim 23, wherein a validity of the operational logic is based at least on a comparison between:

an associated queue characteristic comprising a forwarding priority and a traffic aggregation value for the associated queue; and

an unassociated queue characteristic comprising another forwarding priority and another traffic aggregation value for the unassociated queue.

26. (Previously presented) The method of Claim 23, further comprising enabling automated provisioning of at least one of the following: a forwarding priority value, a traffic aggregation value and a weight, for a selected queue from the associated queue and the unassociated queue, wherein the automated provisioning is based at least in part on the kind of data included in the received packet.

27. (Previously presented) The method of Claim 23, wherein the kind of data included with the received packet is based at least in part on a connection associated with the received packet.

28. (Previously presented) The method of Claim 23, wherein the mapping is based on Diffserv code points.

29. (Currently Amended) A method for forwarding packets over a network, comprising:

mapping a received packet to an associated queue based on a kind of data included with the received packet;

re-mapping the received packet to an unassociated queue unassociated with the kind of data included in the received packet based at least in part on a comparison of a threshold and a

loading difference, a forwarding priority, and a traffic aggregation value of a plurality of queues, wherein the plurality of queues includes the associated queue and the unassociated queue; and

forwarding the received packet based at least in part on a traffic flow of the unassociated queue.

30. (Currently Amended) The method of Claim 29, ~~wherein the loading difference is based at least in part on a threshold,~~ wherein the threshold is automatically configured at least in part on a traffic flow of a plurality of packets.